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**Substitute Specification**  
**Clean Version**

AT 2006-05-30  
PCT/PTO 30 MAY 2006

**SPECIFICATION**

5 [Name of the Invention]

**SUBSTRATE TEMPERATURE MEASUREMENT APPARATUS**  
**AND PROCESSING APPARATUS**

[Technical Field]

[0001] This invention relates to a substrate temperature measurement apparatus  
10 for measuring the temperature of a substrate heated with infrared rays or processed under  
plasma generating circumstances, and a processing apparatus provided with the substrate  
temperature measurement apparatus.

[Background of the Technique]

15 [0002] For example, when a film is formed or ions are implanted onto a  
semiconductor wafer or glass substrate under heated conditions, it is necessary to measure  
the temperature of the substrate accurately to control the temperature of the substrate.  
Previously thermocouple wires were used for measuring the temperature of the substrate.  
For example, a chip is attached to top ends of two thermocouple wires as a temperature  
20 measurement contact point in the following patent document:

Patent Document 1: JP58-28536B

[Disclosure of Invention]

[Problem to be solved by the Invention]

25 [0003] The chip contacts with the substrate. Heat is transferred on to the chip from  
the substrate. The temperature of the substrate is measured under the heating condition of  
infrared rays. The chip absorbs the infrared ray and so the chip is heated. Accordingly the  
temperature of the substrate cannot be properly measured.